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Feminist Critique of Technology and the Emergence of Cyberfeminism

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ABSTRACT

Feminist critiques of technology address the gendered nature of technology. The minimal participation of women in science and technology is attributed to the 'masculine' cultural images of technology and the construction and character of the 'feminine' in our culture. Some theorists regard technology as a social construction, like gender. Feminist scholars like Sandra Harding have pointed out the masculine biases inherent in traditional mainstream science and technology. Another factor behind the derisory participation of women in science and technology is that they have to fit in masculine versions, for example, the long hours of study in science and technology do not allow for domestic and childcare services, which commitments have been avoided by men for a long time. Today, technology is no longer seen as the solution to world problems like environmental degradation, but as the cause of them. Ecofeminist Val Plumwood claims that the binary dualisms in mainstream Western science, like Man/Nature, Man/Woman, Reason/Emotions, Masculine/Feminine, White/Black, Mind/Body, and so on, where one side of the binaries is considered as superior to its counterpart has played a significant role in this regard. In the 1990s, cyberfeminism emerged to study the gendered underpinnings of technology and how technology can reinforce the existing socio-cultural inequalities and to provide a cyberspace for new identities and empowerment of the marginalised communities. Donna Haraway's "A Cyborg Manifesto" attempts to blur the Man/Machine

and physical/nonphysical boundaries. This paper discusses the feminist critiques of Technology and the emergence of cyberfeminism.

Introduction:

"Since technology and gender are both socially constructed and socially pervasive, we can never fully understand one without also understanding the other" (Lohan & Faulkner, 2004, p. 319). In research, a lot of unstudied variables influence the outcome; for instance, the self-estimation of girls and boys is different in most cases, that is, boys tend to overestimate their abilities, while girls tend to underestimate theirs. (Sanders et al., 2006). In our society, technical skills have been divided between men and women: men must be skilled at hunting, while women have their iconic basket-weaving skill. (MacKenzie 1991). Poor women rear silkworms and sell those cocoons to rich households where the mistress organises the tasks of reeling, spinning, and weaving among her women servants (Bray 1997). Men are presupposed to have a natural affinity with machines; they have been actively involved in operating machines and technology, while it is not the same for women. Gender and technology are closely interrelated, where each shapes and determines the other. We encounter technology physically, socially, economically and culturally in our lives. Sometimes technology facilitates what we do, and at other times it restrains what we do. Gender and technology co-create each other. This is the co-creation thesis, which claims that gender and technology may create, define, redefine, shape, affect, influence, or express one another."The cocreation thesis points in several useful directions, suggesting gender at work in many aspects of technology. We find gender in the processes by which technologies are developed (e.g., in the institutions, relationships, and ideas that produce and distribute technologies). We find it in the products themselves (e.g., encoded in design features and in the meanings attached to technological objects). And we find gender in the use of technologies (i.e., in who has access and who adopts technologies)".(Johnson, 2006)

The continued male dominance and insufficient female participation in engineering is due to the prevalent symbolic association of masculinity and technology by which cultural depictions and representations of technology overlap with existing images of masculinity and power (e.g., Balsamo 1998, Burfoot 1997, Caputi 1988).

Yet, in the liberal feminist tradition, the "women in technology" view technology as gender neutral and as unequivocally "a good thing," which women would enter into if only early socialization (e.g., to play

with mechanical toys) and workplace structures (e.g., concerning childcare) were changed (Henwood, 1996).

Liberal and radical feminists perceive technology through different viewpoints. Liberal feminists seek to remove obstacles that prevent equal access for women to technology jobs, not only to achieve greater economic equality but also to give women access to high-paying jobs. While Liberal Feminism focuses on equal access to technology and strives to promote women's participation in tech fields and empowerment through technology, Radical Feminism critiques the patriarchal nature of technology and views technology as a tool of patriarchal control. Radical feminists critique technologies like reproductive tech and surveillance, highlighting their role in objectifying and exploiting marginalised communities, including women, LGBTQIA+ communities, indigenous people and more. Two decades ago, colleagues in biology (Birke, 1986; Bleier, 1984,1986; Fausto-Sterling, 1992; Hubbard, 1990; Keller, 1983,1985; Rosser, 1988; Spanier, 1982) revealed that the predomination of male scientists in science and technology fields had introduced biases against women by excluding females as experimental subjects, focusing on problems primarily of the males, engaging in flawed experimental designs, and interpreting data based on patriarchal standards. This exclusion led to bias that had complex consequences in areas such as health and in medical sciences, where the bias led to underdiagnosis, wrong diagnosis, inappropriate treatment, and higher death rates for cardiovascular and other diseases in women (Healy, 1991; Rosser, 1994). Another example is the failure of the airbags in the US auto industry. Shirley Malcom (personal communication, March 9, 1998) suggests that it is an excellent example of gender bias in design; this mishap would have been less likely to occur if the design team had women engineers. Women, on average, tend to be smaller than men; hence, a woman designer might have realised that a bag which used the male body as a norm would be faulty when applied to smaller individuals, thus killing rather than safeguarding children and small women.

“And just as technology has transformed the seed from a living, renewable resource into a mere raw material, it has devalued women in a corresponding way. The medicalisation of reproduction has been linked to the mechanisation of the female body in which a set of fragmented and replaceable parts are managed by professional experts.” (Shiva, 2014) Vandana Shiva tries to show in her works how biotechnology reproduces the same oppositional binaries of active/passive, nature/culture. Vandana Shiva is a vocal critic of biotechnology and genetic engineering, particularly in the context of agriculture, food production and reproduction. She argues that biotechnology, driven by corporate interests, is being used to control and exploit farmers, especially in developing countries. She opposes the patenting of seeds, genes, and other living organisms, which she views as a form of biopiracy. Shiva is also critical of

genetically modified crops; she expresses her concern about their impact on human health, biodiversity, and the environment. She argues that biotechnology is being used to consolidate corporate power over the food system, displacing small farmers and threatening food sovereignty. This is because patenting of seeds by a few multinational superpower companies leads to monopolies and monocultures, exploiting poor farmers and threatening seed biodiversity and seed sovereignty, which in turn, fails to provide food security to the farmers who are the actual producers. Shiva advocates for a more sustainable and equitable approach to agriculture and emphasises the importance of biodiversity, local knowledge, and organic community-led initiatives which is why she started her Navdanya Movement in 1987. It has successfully conserved seeds in over 150 community seed banks and across 22 states in India.

In the 1900s, cyberfeminism emerged as scholars, activists, and artists who were interested in technology and its gendered underpinnings formed networks. The concept of cyberfeminism is so fluid that there have been vastly different meanings and definitions, and no consensus has been reached regarding its referent. Cyberfeminism is cybernetic feminism. It can also be seen as referring to feminist activities situated either online or in various electronic environments, that is, “feminism in cyberspace” (Gillis, 2004, pp. 185; also Sollfrank, 2002; Volkart, 2004). Cyberpunk author William Gibson coined the term “cyberspace” in his 1982 short story “Burning Chrome” to describe a digital parallel reality reached via neural connections where all the world’s data is stored. Cyberspace has been used to refer to activities online and in electronic environments. ‘Cyber’ comes from the same Greek word as 'governor' or 'gubernatorial'. Its actual original meaning is to steer. Its relationship to information technology is in the area of mapping, navigation and steering one's way through the World Wide Web and cyberspace. According to a popular narrative, cyberfeminism was born in Adelaide, Australia, in 1991, as VNS Matrix, a group of four female artists, Virginia Barratt, Julianne Pierce, Francesca di Rimini and Josephine Starrs,“ decided to have some fun with art and French feminist theory” (Pierce, 1998, p. 10). The VNS Matrix coined “A cyberfeminist manifesto for the twenty-first century” in homage to Donna Haraway’s influential “A Manifesto for Cyborgs” (originally published in 1985), and displayed it on a large billboard. The VNS Matrix Cyberfeminist Manifesto for the 21st Century lays down “we are the virus of the new world disorder/rupturing the symbolic from within/saboteurs of big daddy mainframe/the clitoris is a direct line to the matrix.” In 1997, the Old Boy’s Network, founded by German artist Cornelia Sollfrank, launched the first Cyberfeminist International Conference, followed by the publication First Cyberfeminist International (1998). The conferences and subsequent publications comprised various lectures and artworks. Melanie Stewart Millar (1998: 200) defines cyberfeminism critically as: “A women-centred perspective that advocates women's use of new information and

communications technologies for empowerment. Some cyberfeminists see these technologies as inherently liberatory and argue that their development will lead to an end to male superiority because women are uniquely suited to life in the digital age."

Donna Haraway wrote "A Cyborg Manifesto" which was first published in 1985 in the *Socialist Review* under the title "A Manifesto for Cyborgs: Science, Technology, and Socialist Feminism in the 1980s. A cyborg is part organic, part machine. The Britannica Encyclopaedia defines cyborg as a "term blending the words cybernetic and organism, originally proposed in 1960 to describe a human being whose physiological functions are aided or enhanced by artificial means such as biochemical or electronic modifications to the body." Many groups have accepted the computer as a cultural icon, theorising it as a utopian medium to neutralise gender. Haraway's cyborg is an imaginary being which she uses to dismantle the oppositional binaries of Man/Nature, Mind/Body, Nature/Culture, Reason/Emotion, which have perpetuated hierarchy and domination in mainstream Western philosophy for a long time. "By the late 20th century, our time, a mythic time, we are all chimaeras, theorised and fabricated hybrids of machine and organism," "In short, we are all cyborgs," wrote Haraway in her iconic *A Cyborg Manifesto*. The word Chimera refers to an organism containing a mixture of genetically different tissues, formed by processes such as fusion of early embryos, grafting, or mutation. The text allows us to reassess our assumptions about what it means to be human. The cyborg challenges essentialist concepts of gender. The cyborg challenges traditional concepts of identity. Cyborgs can also replicate without the need to produce, rejecting the patriarchal figure of the father and challenging our understanding of the family and the biologically determined "role" of women. "The cyborg is a creature in a post-gender world; it has no truck with bisexuality, pre-oedipal symbiosis, unalienated labour, or other seductions to organic wholeness through a final appropriation of all the powers of the parts into a higher unity. In a sense, the cyborg has no origin story in the Western sense – a 'final 'irony since the cyborg is also the awful apocalyptic telos of the 'West's 'escalating dominations of abstract individuation, an ultimate self—untied at last from all dependency, a man in space" (Haraway,1991). The cyborg breaks down the binaries of Nature/Culture and Public/Private . Both Haraway and VNS Matrix depict the image of cyberspace as a place where gender roles are subverted and where masculine dominance becomes threatened. She uses the concept of the cyborg to move beyond the biological roles of women, which have been used for a long time in patriarchal setups to oppress women.

Sadie Plant draws a parallel between feminism and computers. Computers are aligned with feminism. Computers are interconnected, decentralised systems. She claims that positing computers as a masculine

tool is a recent phenomenon, before which there is a long history of intimate connection between women and machines. Though like women, computers are supposed to be duty-bound to the male members, they surpass them, and they subsume patriarchy. Plant refers to Mary Shelley's Frankenstein. She then further elaborates her argument that women are closely related to machines by citing the following example. She writes, "Ada Lovelace wrote the software for the 1840s Analytical Engine, a prototype computer which was never built, and when such a machine was finally constructed in the 1940s, it too was programmed by a woman, Grace Murray Hopper"(Plant, 2020). Plant traces back the development of computers. She denotes that in cyberspace, gender gets blurred and spatio-temporal identities are dismantled. She argues that computers can do anything and take up any identity, like Irigaray's woman. She writes, "Like Irigaray's woman, it can turn its invisible, non-existent self to anything: it runs any program, and simulates all operations, even those of its own functioning. This is the woman who 'doesn't know what she wants', and cannot say what she is, or thinks, and yet still, of course, persists as through 'elsewhere', as Irigaray often writes" (Plant, 2013).

Cyberfeminism has been critiqued for being White-centric and focused on cisgendered females, as a result of which, later Black Cyberfeminism, Afrofuturisms, and xenofeminism emerged. The Japanese cyberpunk genre shows the gender -technology connection in anime. Black cyberfeminism deals with Black Feminism, cyberfeminism and intersectionality. Xenofeminism is an offshoot of cyberfeminism started by Laboria Cuboniks. It is anti-naturalist and advocates for the abolition of gender. It supports the abolition of race, class and other oppressive forms of domination. It imagines a time and space where the masculine tools themselves are used against patriarchy by feminism. Though technology is considered and has been used for perpetuating patriarchy and masculine power, it can be used for the needs and voices of the marginalised sections. Technology requires a more inclusive design that will prioritise intersectional marginalised groups. More critical evaluation and research are needed. In conclusion, technology can be used to neutralise gender. It can, at least in theory, be used to dismantle hierarchical binaries, like Man/Woman, Nature/Culture, White/Black, Heterosexual/Homosexual, thus leading to an inclusive, egalitarian future. Through technology, women and marginalised people can take on new identities of people from other socio-cultural backgrounds in cyberspace, which is called identity tourism. Today, female virtual surfers are no longer using terms such as 'feminist', but they are using non-gendered terms like 'queer'. They are moving beyond gender as a mode of identity. In this age of technology,both identity and gender are fluid in the sense that they are not determined by biology or social conditions and are open to choice and change.